

Application. No. 10/627,927
Amendment dated April 7, 2005
Reply to Office Action of March 8, 2005

REMARKS/ARGUMENTS

Applicant hereby provisionally elects, with traverse, the claims of Group II (claims 5 -11) drawn to a method of calibrating vacuum nozzle positions in a component placement machine.

Applicant believes that it is improper to restrict the apparatus and method claims of the instant application. The classic test for such a restriction is that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand; or (2) the apparatus as claimed can be used to practice another materially different process. Examiner Noland suggests that the former requirement might be met, for example, in a manner "such as not requiring a housing structured as set forth in Group 1." Applicant respectfully disagrees. To practice the claimed method, it is necessary that a fixed, precise relationship be maintained between the camera(s) of the vision system and to each of the plurality of nozzles being inspected. It is necessary, therefore, that the camera be "operatively disposed with respect to and contiguous with said housing". As claimed, Applicant's housing is the ONLY structure to which the camera may be affixed that provides the necessary camera/nozzle relationship. The nozzles are attached to the rotating frame supported by the housing and it would be mechanically impossible (or at least highly impractical for a variety of reasons) to attach a camera to the frame. Even if it were possible or practical to affix the camera to the rotating frame, the necessary relationship of the camera to each of the nozzles would be difficult to maintain.

Fixed placement of the camera external to the housing/rotating frame could not and would not maintain the precise positional relationship between the camera and the nozzle being inspected. Consequently, any other possible placement of the camera(s), other than as recited in the apparatus claims of group I, does not seem possible.

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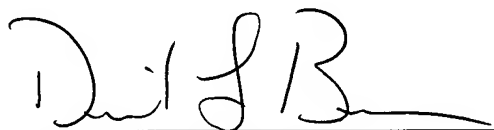
Likewise, manual inspection of the nozzles is so impractical as to be tantamount to impossible. The relationship of a human observer, even equipped with the necessary optical magnification equipment, could not provide the precise data, typically measured in thousandths or even ten-thousandths of inches that would allow the claimed method to be successfully practiced.

Conversely, the claimed apparatus has little if any use for performing any materially different process. It must be kept in mind, of course, that the housing/rotating frame/placement head/nozzle apparatus exists ultimately for picking and placing miniature electronic components onto printed circuit boards or similar electronic packaging structures. The inventive method as claimed forms a vitally important subset of a larger process just as the relationship of the camera(s) and vision system as recited in the apparatus claims of Group I form a vital subset of the component pick and place apparatus.

Therefore, Applicant respectfully traverses the restriction requirement imposed upon the claims of the instant application.

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| On <u>4/8/05</u> | (Date of Deposit) |
| <u>DAVID L. BANNER</u> | <u>4/8/05</u> (Date) |

Respectfully submitted,
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